In re Appl. No. 09/380,638

where B is a pyrimidine or purine nucleic acid base, or an analogue thereof, and X and Y are identical or different, and each represent a hydrogen atom, an alkyl group, an alkenyl group, an alkenyl group, an aryl group, an acyl group, or a silyl group, or an amidite derivative thereof.

- 2. A nucleoside analogue as claimed in claim 1, wherein X and Y each representrepresents a hydrogen atom.
- 3. A mononucleoside amidite derivative as claimed in claim 1, wherein X is 4,4-dimethoxytrityl (DMTr), and Y is a 2-cyanoethoxy(diisopropylamino)phosphinophosphano group (amidite group).
- 4. An oligonucleotide or polynucleotide analogue having one or more structures or the  $\frac{1}{2}$



In re Appl. No. 09/380,638

(la)

where B is a pyrimidine or purine nucleic acid base, or a an analogue thereof.

5. An oligonucleotide or polynucleotide analogue of the **general** formula (II)

where B<sup>1</sup> and B are identical or different, and each representrepresents a pyrimidine or purine nucleic acid base,

In re Appl. No. 09/380,638

or an analogue thereof, R is a hydrogen atom, a hydroxyl group, a halogen atom, or an alkoxy group,

W¹ and W² are identical or different, and each represents a hydrogen atom, an alkyl group, an alkenyl group, an alkinylalkynyl group, a cycloalkyl group, an aralkyl group, an aryl group, an acyl group, a silyl group, a phosphoric acid residue, a naturally occurring nucleoside or a synthetic nucleoside bound via a phosphodiester bond, or an oligonucleotide or polynucleotide containing the nucleoside, n²¹sn¹ or n²¹sn² are identical or different, and each denotedenotes an integer of 0 to 50, provided that n²¹s or n²¹sn¹ and n² are not both zero at the same time, and that not all of the n²¹sn² are zero at the same time, n³ denotes an integer of 1 to 50, provided that when n¹ and/or n² are or is 2 or more, B¹ and B need not be identical, and R¹sR need not be identical.